

AMENDMENTS TO THE CLAIMS

1. (Currently amended) A method for ~~[[the]]~~ conveying ~~[[of]]~~ data between several ~~users A, B,~~ at least two users having a connection in a communications network comprising at least one low-bit-rate artery, ~~[[and]]~~ one or more ~~[[lines]]~~ arteries working at standard bit rates, ~~the network comprising a basic transmission unit, such as a cell at least two adaptation units,~~ and at least one adaptation layer protocol, the data to be transmitted taking the form of packets ~~[[Pi]]~~ having a size smaller ~~[[then]]~~ than the size of the basic transmission unit, the method comprising at least the following steps:

- ~~extracting the packets P_i from the upstream and/or downstream cells of a low-bit-rate artery (steps (4a) or (5a));~~
- ~~inserting said packets according to a given adaptation layer protocol, in the cells of a virtual circuit set up between the ends of the low-bit-rate artery (steps (4b)), or between the users (steps (5b) and (5c))~~

upstream from the low-bit-rate artery at an adaptation unit assigned to an originating user,
collecting data from the originating user and converting said data into coded frames using a
compression algorithm;

forming a packet of application data comprising a number of coded frames;

forming a Common Part Sublayer packet comprising the packet of application data;

inserting the Common Part Sublayer packet into a basic transmission unit at a rate of one
packet per unit and sending said unit through a network to a first end of the low-bit-rate artery;

at the first end of the low-bit-rate artery, extracting multiple Common Part Sublayer
packets from basic transmission units received from different originating users and multiplexing
said packets in a basic transmission unit of a virtual circuit set up between the first end and a
second end of the low-bit-rate artery according to the adaptation layer protocol;

sending the basic transmission unit of the virtual circuit from the first end to the second end of the low-bit-rate artery;

at the second end of the low-bit-rate artery, receiving the basic transmission unit of the virtual circuit and extracting the Common Part Sublayer packets from said unit by demultiplexing the packets from said unit;

determining the connection to which each of the Common Part Sublayer packets belong and inserting each Common Part Sublayer packet into a basic transmission unit at a rate of one packet per unit for transmission to an addressee user;

sending said basic transmission unit through a network downstream from the low-bit-rate artery to an adaptation unit assigned to the addressee user; and

at the adaptation unit assigned to the addressee user, extracting the Common Part Sublayer packet from the basic transmission unit.

2. (Currently amended) A method according to claim 1, comprising [[a]] multiplexing of data in Common Part Sublayer packets from [[a]] the same originating user or from different users, upstream to the low-bit-rate artery and/or and [[a]] demultiplexing operation of the data the Common Part Sublayer packets downstream from the low-bit-rate artery.

3. (Canceled)

4. (Currently amended) A method according to ~~one of the claims 1 to 3~~ claim 1, further comprising using [[the]] AAL2 protocol for inserting when multiplexing the Common Part Sublayer packets in the basic transmission unit of the virtual circuit between the first end and second end of the low-bit-rate artery.

5. (Currently amended) A method according to ~~one of the claims 1 to 4~~ claim 1, comprising a step ~~preliminary to the extraction of the packets in which;~~ wherein

- ~~— (2a) the data are converted into frames by using a compression algorithm;~~
- ~~— (2b) a the packet of applications~~ application data is formed ~~[[out]]~~ of a fixed number of successive coded frames ~~and signalling data if any, and~~
- ~~— (2c) a the Common Part Sublayer~~ packet ~~[[Pi]]~~ is formed ~~[[out]]~~ of the application data packet and a header~~[[,]]~~
- ~~— (2d) the packet Pi is inserted into a cell before it is put through the step (4a).~~

6. (Currently amended) A method according to ~~[[claim 5]]~~ claim 1, further comprising a step ~~for the transportation of data by means of cells, prior to the step (2a),~~ transporting data from the originating user to the adaptation unit assigned to the originating user according to an AAL1 type protocol between the user sending the data and an adaptation unit (4).

7. (Currently amended) A method according to ~~one of the claims 1 to 4~~ claim 1 further comprising, downstream from ~~[[a]]~~ the low-bit-rate artery, a step comprising:

- ~~— (5b) the determining of the connection to which the packets Pi belong;~~
- ~~— the inserting of the packets into cells for transmission or the performance of the step (4b) if the downstream end of the artery corresponds to the upstream end of another an~~ additional low-bit-rate artery, repeating the actions of multiplexing the Common Part Sublayer packets from different originating users in a basic transmission unit of a virtual circuit set up between the first end and second end of the additional low-bit-rate artery, and sending the basic transmission unit of the virtual circuit from the first end to the second end of the additional low-bit-rate artery.

8. (Currently amended) A method according to ~~one of the claims 1 to 4~~ claim 1 further comprising, at the level of the addressee user, ~~a step comprising at least:~~

- ~~(7a) the extraction of Pi from the cells,~~
- ~~(7b) the determining of the addressee user~~
- ~~(7c) the processing and checking of the information to obtain the initial data (sent by the sender user)~~

extracting the coded frames from the Common Part Sublayer packet and recreating the data for the addressee user.

9. (Currently amended) A method according to ~~one of the claims 1 to 8~~ claim 1, further comprising using ~~[[the]]~~ a user-to-user information (UUI) field ~~[[of the]]~~ in a header of a CPS-type the Common Part Sublayer packet ~~[[Pi]]~~ to check the integrity of the data sent between two users the originating user and the addressee user in communication.

10. (Currently amended) ~~An application of the A~~ method according to ~~any of the claims 1 to 9 to~~ claim 1, wherein ~~the transfer of data~~ [[in the]] from the originating user comprises video format, for or digital voice transmission and the like data.

11. (Currently amended) A device for data ~~switching~~ transmission between several users ~~A, B~~ for at least two users in a communications network comprising at least one low-bit-rate artery and one or more standard-bit-rate arteries, ~~the network comprising a basic transmission unit, such as a cell,~~ and supporting at least one adaptation layer protocol, wherein the device comprises at least one multiplexer device having a packetization function and a switching function, wherein the switching function of the multiplexer device is adapted to the switching of packets ~~[[Pi]]~~ conveyed in the ~~[[cells]]~~ basic transmission units according to the

adaptation layer protocol among several virtual lines constituted by connections in multiplexed or non-multiplexed mode.

12. (Currently amended) A device according to claim 11 further comprising at least the following elements:

- [[•]] a shuffler to transmit a [[cell]] basic transmission unit to the multiplexer and carry out a transparent switching of the [[cells]] units that do not have to travel through a low-bit-rate artery,
- ~~a means wherein the packetization function is configured to extract the packets [[Pi]] from the [[cells]] basic transmission units intended to travelling travel through a low-bit-rate artery and for cell-packetization of the packets in new basic transmission units in multiplexed mode~~[[,]] for each virtual low-bit-rate artery,
- ~~a means for the shunting of the packets received from the means and a table adapted [[to]] for determining the cell-exit-virtual-artery artery over which the packets in the basic transmission units are intended to travel.~~

13. (Currently amended) A device according to claim 12, ~~used in a~~ wherein the network [[supporting a,]] supports an AAL2 type adaptation protocol.

14. (Currently amended) A device according to ~~any of the claims 12 or 13~~ claim 13, wherein the ~~switching~~ device is an ATM switch equipped with a multiplexer ~~whose role is~~ configured to switch [[CPS]] Common Part Sublayer packets among several virtual arteries constituted by ATM connections in multiplexed or non-multiplexed AAL2 mode.

15. (Currently amended) A network to convey data ~~among several users A, B, in a~~ connection between at least two users, the network comprising one or more low-bit-rate arteries

and one or more standard-bit-rate arteries, at least one adaptation layer protocol and one basic transmission unit ~~such as a cell~~, wherein the network comprises at least one ~~switching device~~ according to one of the claims 11 to 14 comprising at least one multiplexer device having a packetization function and a switching function, wherein the switching function of the multiplexer device is adapted to the switching of packets conveyed in the basic transmission units according to the adaptation layer protocol among several virtual lines constituted by connections in multiplexed or non-multiplexed mode, this device being positioned upstream to and downstream from a low-bit-rate artery.

16. (Currently amended) A ~~communications network~~ according to claim 15, ~~comprising one or more~~ wherein the device is an ATM switch.

17. (New) The network of Claim 15, wherein network comprises at least two said devices, with a first device positioned at a first end of a low-bit-rate artery and a second device positioned at a second end of the low-bit-rate artery,

wherein, in multiplexed mode, the first device is adapted to:

use the packetization function to extract multiple packets from basic transmission units received from different originating users;

multiplex said packets in a basic transmission unit of a virtual circuit set up between the first end and the second end of the low-bit-rate artery; and

send the basic transmission unit of the virtual circuit from the first end to the second end of the low-bit-rate artery;

and wherein, in multiplexed mode, the second device is adapted to:

receive the basic transmission unit of the virtual circuit;

use the packetization function to extract the packets from said unit by demultiplexing the packets from said unit;

determine the connection to which each of the packets belong;

insert each packet into a new basic transmission unit at a rate of one packet per unit for transmission to an addressee user; and

send said new basic transmission unit to the addressee user.